

27. (Amended) A method of using a rock crusher for crushing rocks, the rock crusher comprising a crushing chamber housing and a rotor positioned in the crushing chamber housing, the rotor being configured to receive the rocks thereinto and to eject the rocks outwardly therefrom so that the rocks are crushed in a space between the rotor and the crushing chamber housing, the method comprising:

adjusting an angle of the rotor with respect to a vertical direction to control fracture mechanisms in the rock crusher.

28. (Amended) The method as claimed in claim 27, wherein the rock crusher further comprises an anvil and the method further comprises adjusting a distance between the anvil and the rotor to achieve desired fracture mechanisms.

REMARKS

By this Amendment, Applicant has canceled claims 5 and 29-37 without prejudice or disclaimer of the subject matter thereof and amended claims 1-4 and 6-28. Accordingly, claims 1-4 and 6-28 are currently pending in the application. Claims 1 and 27 are independent claims.

Submitted herewith is an Information Disclosure Statement. Applicant respectfully requests that the Examiner consider the documents listed in the Form PTO 1449 and indicate that they were considered by making appropriate notations on the form and returning a copy thereof to Applicant.

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The Examiner indicated that claims 2, 3, 4/2, 4/3, 5/4/2, and 5/4/3 contain allowable subject matter. See Office Action, Page 2. Applicant appreciates the Examiner's early indication of allowable subject matter.

Applicant has amended the specification to correct inadvertent errors of a typographical, grammatical, or clerical nature. These amendments to the specification do not introduce any new matter. In addition, Applicant respectfully submits that these amendments to the specification adequately address the Examiner's objections to the drawings and the specification. See Office Action, Page 2.

The Examiner objected to claims 6-9 and 31-34 as being improper multiple dependent claims depending from another multiple dependent claim. See Office Action, Page 3. This Amendment canceling claims 31-34 renders moot the Examiner's objection to these claims. Regarding claims 6-9, Applicant has amended these claims to be dependent claims.

In the Office Action, the Examiner rejected claims 5, 29, 30, 35, and 37 under 35 U.S.C. § 112, second paragraph. See Office Action, Page 3. This Amendment canceling claims 5, 29, 30, 35, and 37 renders moot the rejection under Section 112, second paragraph.

In the Office Action, the Examiner rejected claims 1, 4/1, 5/4/1, 29, 35, and 37 under 35 U.S.C. §102(b) as being anticipated by Liebing (U.S. Patent No. 5,292,080) and rejected claim 30 under 35 U.S.C. §103(a) as being unpatentable over Liebing in view of Wood (U.S. Patent No. 3,578,254).

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This Amendment canceling claims 5, 29, 35, and 37 renders moot the rejection of these claims under 35 U.S.C. § 102(b). Also, this Amendment canceling claim 30 renders moot the rejection of this claim under 35 U.S.C. § 103(a).

Applicant respectfully traverses the rejection of claims 1, 4/1, and 5/4/1 under 35 U.S.C. §102(b) because Liebing fails to disclose all of the elements recited in the claims. In order to properly anticipate Applicant's claimed invention under 35 U.S.C. § 102(b), each and every element of the claim at issue must be found, either expressly described or under principles of inherency, in a single prior art reference. Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." See M.P.E.P. § 2131 (8th ed. 2001), quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1126, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). Finally, "[t]he elements must be arranged as required by the claim." M.P.E.P. § 2131 (8th ed. 2001), p. 2100-69.

For example, Liebing fails to disclose a rotary impact rock crusher for crushing rocks including, among other things, "a rotor positioned in the crushing chamber housing, the rotor being configured to receive the rocks thereinto and to eject the rocks outwardly therefrom so that the rocks are crushed in a space between the rotor and the crushing chamber housing," as recited in independent claim 1.

Liebing fails to disclose a rock crusher. As shown in Fig. 1, Liebing discloses an impact mill "employed for crushing tasks or only as impact dehullers to separate brittle shells, such as the shells of soybeans or cocoa beans and of other husk fruits, or, in

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general terms, to separate the seeds from the kernels.” Col. 1, lines 11-15. Nowhere in Liebing, however, is it disclosed that the impact mill could be used to crush rocks.

The Examiner did not identify the structures of Liebing that the Examiner interprets as the recited rotor and crushing chamber housing. Rather, the Examiner cited the first paragraph of column 4 as supporting his allegation that Liebing discloses “a crusher having adjustable components.” Office Action, Page 4. The first paragraph of column 4 discloses that “it may be desirable to make the angle alpha changeable.” As shown in Fig. 1, the angle alpha disclosed in Liebing is an angle between the rotational axis 18 of the impact ring 17 and the rotational axis 3 of the distribution head 4 when the lid 2 is closed. See Col. 2, lines 39-42 and lines 54-60. Because Liebing discloses that the distribution head 4, is rotationally fixed in the housing 1, see Col. 2, lines 41-45, Applicant expects that the Examiner is interpreting the impact ring 17 and the lid 2, respectively, as the recited rotor and crushing chamber housing. Applicant believes that no other interpretation is plausible. Nevertheless, Applicant respectfully requests that the Examiner clearly identify the structures of Liebing that the Examiner interprets as the recited rotor and crushing chamber housing, if he is interpreting Liebing differently from what Applicant expects.

Based on this expectation, Liebing fails to disclose “a rotor . . . configured . . . to eject the rocks outwardly therefrom so that the rocks are crushed in a space between the rotor and the crushing chamber housing.” As shown in Fig. 1, a mounting 16 for the impact ring 17 is rotatably arranged in the lid 2. See Col. 2, lines 54-55. And the impact ring 17 clamped to the mounting 16 is driven by a geared motor 21. See Col. 3, lines

25-32. Thus, the raw material fed through an upper feeding pipe 5 is impacted within the impact ring 17. Liebing, however, fails to disclose that the impact ring 17 ejects the raw material outwardly therefrom so that the raw material is crushed in the space between the impact ring 17 and the lid 2.

For at least these reasons, Liebing fails to anticipate independent claim 1. For the same reasons, Liebing also fails to anticipate independent claim 27. Accordingly, independent claims 1 and 27 are in condition for allowance. Claims 2-4, 6-26, and 28 are also in condition for allowance at least by virtue of their dependency from respective allowable independent claims.

In view of the foregoing, Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims.

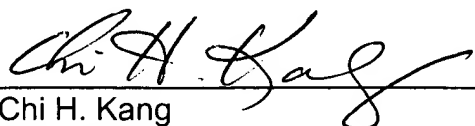
Attached hereto is a marked-up version of the changes made to the specification and claims by this Amendment. The attachment is captioned "**APPENDIX TO AMENDMENT OF FEBRUARY 19, 2003.**" Deletions appear as normal text surrounded by [] and additions appear as underlined text.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: February 19, 2003

By: 
Chi H. Kang
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APPENDIX TO AMENDMENT OF FEBRUARY 19, 2003

Amendments to the Specification

Page 12, the paragraph beginning with "The fracture mechanisms":

(Amended) The fracture mechanisms referred to previously [may] are now discussed.

Page 16, the paragraph beginning with "Figure 7B":

(Amended) [Figure 7B is] 11A designates a shaft housing which houses the shaft 11. The shaft housing [7B] 11A may be circular or rectangular or some other polygonal shape. The configuration of the chute 7 is such that where the plane of the chute 7 intersects the shaft housing 11A at point 7A, the shaft housing passes through the chute 7 at an angle. Where the shaft housing 11A intersects the chute at point 7A there may be sufficient chute width either side of the shaft housing 11A to allow the rock product emitted from the rotor to be transported by the chute 7.

Page 17, the paragraph beginning with "The adjustable anvil 5":

(Amended) The adjustable anvil 5 is shown in two positions in figure 2. The first is shown by the lighter lines 5A and the other position is shown by darker lines 5B. The anvil includes cavities 9. The distance between the anvil [and] end face 6 and the rotor is adjustable.

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